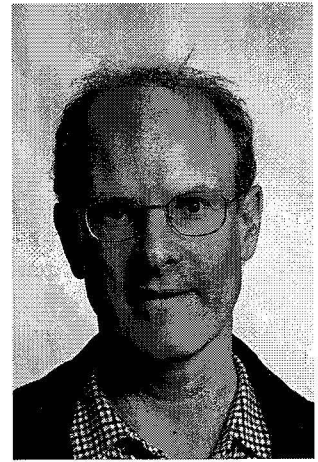# TRENDS IN HOUSEHOLD EMPLOYMENT INEQUALITY

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Abstract

Since at least the mid-1980s there has been a growth both "work-rich" and "work-poor" households across a range of OECD countries, including New Zealand, Australia, and Britain. In this paper, we present initial results from the New Zealand component of an international comparative study on trends in household employment inequality. Using annual household-level HLFS data for 1986 through 2001, we find that household employment inequality increased dramatically during the late 1980s and early 1990s but has since declined to about the 1986 level. The composition of jobless households changed significantly over the period, with joblessness becoming more concentrated among childrearing households. Changes in the employment rates of specific household types were much more important than changes in household structure in shaping the observed trends in household employment inequality. Future research will examine the role of age, education, gender, ethnicity and geographic location in stratifying employment both within and across different household types, and will explore differences between New Zealand and several OECD countries in household employment inequality and associated social and economic policies.

Introduction

Since at least the mid-1980s, there has been a growth in both "work-poor" and "work-rich" households across a range of OECD countries, including New Zealand, Australia, and Britain (Callister 2001; Gregg and Wadsworth 2002; OECD 1998). These trends are significant for policy purposes because they suggest that jobless individuals are less likely to live in households where at least one other adult is attached to the labour market. Without labour market earnings, such households are more likely to require state income support. In addition, jobless households often have diminished social networks to employment and, given patterns of residential segregation, may be geographically isolated from labour markets as well (Callister 1998; Morrison, Callister, and Rigby 2002). More generally, a rise in employment inequality at the household level may signal a further dimension to growing disparities across social groups (e.g., education level, ethnicity, age).

New Zealand research has documented a growth in both work-poor and work-rich households since 1986, but has not captured annual changes prior to 1995 (Callister 2001). Documenting annual changes in household employment inequality is especially important in times of significant restructuring as experienced by New Zealand in the late 1980s and early 1990s. Knowing when changes in household employment inequality took place helps to determine whether the introduction of particular economic or social policies, such as the Employment Contracts Act of 1991, directly affected the distribution of work. In addition, work to date on the New Zealand experience has not been able to tease out the underlying patterns of change that may be driving increasing household inequality. For example, we do not know the relative importance of various co-factors, such as changes in the age and education composition of households, or the relative importance of labour market changes versus household structural changes. To address these issues, the authors are participating in an international comparative study headed by Paul Gregg, an economist affiliated with the London School of Economics. The study uses new data and new methods, and provides a fully comparative framework in which to understand the New Zealand experience of household employment inequality.

As a whole, the project seeks to answer the following questions:

(1) What are the annual trends in household employment inequality since the mid-1980s?

(2) What is the relative importance of changes in individual-level employment rates and household structural change in producing the observed trends?

(3) How have various household types (e.g., one adult; two adults with children) fared?

(4) How have changes in the composition of households (in terms of individuals' age, education, gender, ethnicity and region) contributed to the observed trends?

(5) What are the likely social and economic policy changes underlying these trends?

(6) How does New Zealand fare relative to other countries in household employment inequality, and

(7) What are the implications for economic and social policy?

This paper reports on initial results, providing answers to questions 1, 2, and 3. In addition, we provide a general picture of where New Zealand stands in relation to the some of the other countries in the comparative study (question 6) and describe our plans for future research.

Data and Methods

We use household-level data from the March quarters of Household Labour Force Survey (HLFS) for the years 1986 through 2001. The HLFS covers approximately 15,000 households and 30,000 individuals from the civilian, non-institutionalised, usually resident population aged 15 years and over.[1] For each year, the data set is comprised of households with at least one working-age adult (aged 15-64) who is not a full-time student. Full-time students over the age of 16 are excluded from the analysis. Individuals aged 15 or 16 who are full-time students are counted as dependent children. Households are then classified according to the number of working-age adults (referred to here as household type) and, for some purposes, by the presence of dependent children. All working-age adults in the household are then characterised by their employment status. Any individual who is unemployed or out of the labour force (including the 'early retired') is counted as jobless. Thus, a jobless or "work-poor" household is one in which no working-age members are employed. An "all-work" or "work-rich" household is one in which all working-age adults are employed. However, it is important to note that this classification does not take into account the total number of hours in either paid or unpaid work.

To measure annual household employment inequality and trends over time, we employ Gregg and Wadsworth's (2000) concept of *polarisation*. If every working-age individual in every household had the same chance of being employed, then there would be no household employment inequality. Households would still differ in their chance of having a member in paid employment, but this probability would depend only on the number of working-age adults in the households. We use this scenario of equal employment probabilities to come up with an expected household jobless rate for each household type, according to the number of working-age adults (1, 2, and 3+). Any discrepancy between the expected rate and the observed rate of household joblessness indicates the level of household employment inequality – or *polarisation* (Gregg and Wadsworth 2000). Next, we explore the source of any change over time in polarisation by decomposing both changes in the predicted household jobless rate and changes in polarisation into their component parts. Change in the predicted household jobless rate can be decomposed into components measuring change in household composition versus change in overall individual-level employment probabilities. Change in the polarisation measure can be decomposed into between- and within-group components, which together suggest the relative importance of changing household composition versus changing allocation of work within households.

Overall Trends in Joblessness and Household Structure

Table 1 shows that both individual and household jobless rates rose appreciably during the 1980s and early 1990s. By 1992, 31.0 percent of all working-age adults were jobless, up from 24.3 percent in 1986. Household joblessness peaked in 1992-93, when 21.0 percent of households had no one in paid employment, up from 13.3 percent in 1986. Both measures then declined, but household-level joblessness did so more slowly. In 2001, household joblessness was slightly higher than in 1986, while individual joblessness was slightly lower. Changes in individual joblessness represent offsetting effects of a rise in the male jobless rate and (after a period of increases to 1992) an overall decline in the female jobless rate between 1986 and 2001 (columns 3 and 4).

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[1] Recently, as initiated by this study, Statistics New Zealand developed a household weighting system for use of the household data prior to 1995. Thus, this study is one of the first to analyse the HLFS household data for the full period of the survey.

Table 1 Individual and Household Joblessness, 1986-2001

	Jobless individuals	Jobless households	Jobless men	Jobless women
	%	%	%	%
1986	24.3	13.3	11.0	37.6
1987	24.2	14.3	11.5	36.8
1988	25.6	15.6	13.7	37.3
1989	28.4	18.3	17.5	39.3
1990	28.7	19.3	18.0	39.1
1991	29.8	20.2	20.1	39.2
1992	31.0	21.0	21.9	39.9
1993	30.3	21.0	20.9	39.5
1994	29.1	20.3	20.0	37.9
1995	26.6	18.4	16.9	36.0
1996	25.1	17.6	15.8	34.2
1997	25.1	17.3	15.9	34.1
1998	25.7	17.5	16.5	34.5
1999	25.6	17.2	17.2	33.6
2000	25.0	16.9	16.5	33.3
2001	23.6	15.5	15.4	31.6

HLFS, March quarters

Table 2 Change in household structure, by number of working-age adults present, 1986-2001

	No. of working age adults		
Year	1	2	3+
	%	%	%
1986	21.9	57.0	21.1
1987	21.7	57.4	20.9
1988	22.6	58.0	19.4
1989	24.5	56.3	19.2
1990	24.7	56.4	19.0
1991	25.7	56.2	18.1
1992	26.2	54.7	19.1
1993	26.5	55.7	17.8
1994	26.6	56.2	17.3
1995	26.5	56.3	17.2
1996	27.3	56.3	16.4
1997	28.0	55.8	16.1
1998	29.1	55.2	15.7
1999	29.1	55.5	15.4
2000	30.1	55.1	14.8
2001	30.7	55.5	13.7

HLFS, March quarters

Table 1 indicates that changes in the individual-level employment rate clearly had some effect on the trend in household-level joblessness, but it was not the only factor. Table 2 shows that there was also a shift toward single-adult households, the household type most likely to be jobless, simply due to laws of probability. The rise in single-adult households – from about one-fifth to almost one-third of all households in 2001 – has been accompanied by a decline primarily in households with three or more working-age adults, the household type least likely to be jobless (in a probabilistic sense). By 2001, almost one-third (30.7%) of households were single-adult and only 13.7 percent were 3+-adult households. Among one-adult households there were increases in both those with (5.2 to 9.3%) and without (16.7 to 21.4%) children (data not shown). In contrast, the proportion of two-adult households stayed roughly the same, declining slightly from 57.0 to 55.5 percent over the entire time period. This represented offsetting effects of declines in two-adult households with children (from 32.3 to 28.0 percent of all households) and increases in two-adult childless households (from 24.7 to 27.6 percent of all households) (data not shown).[2]
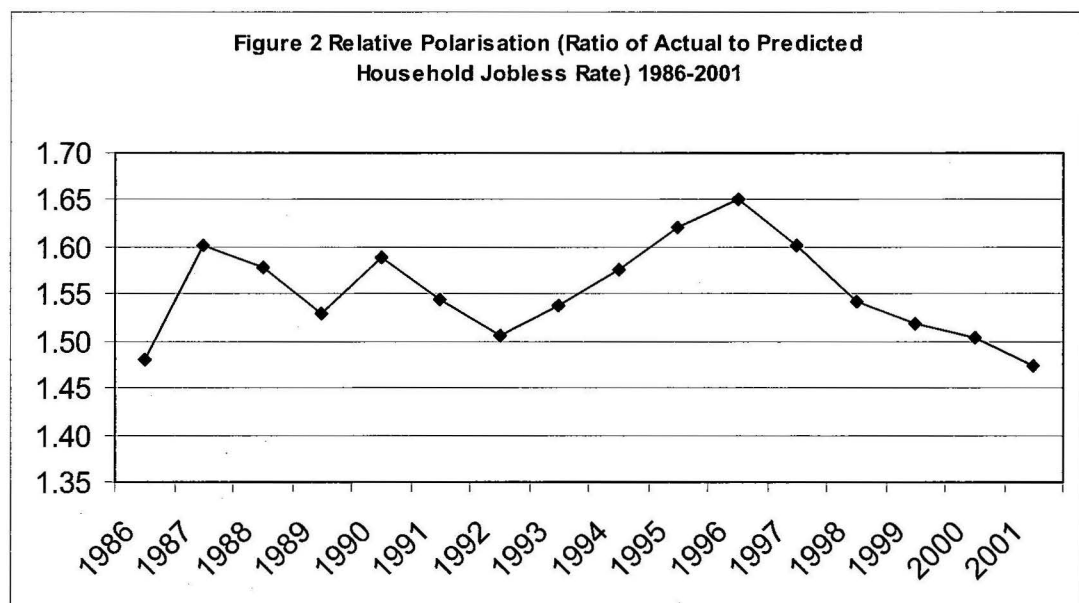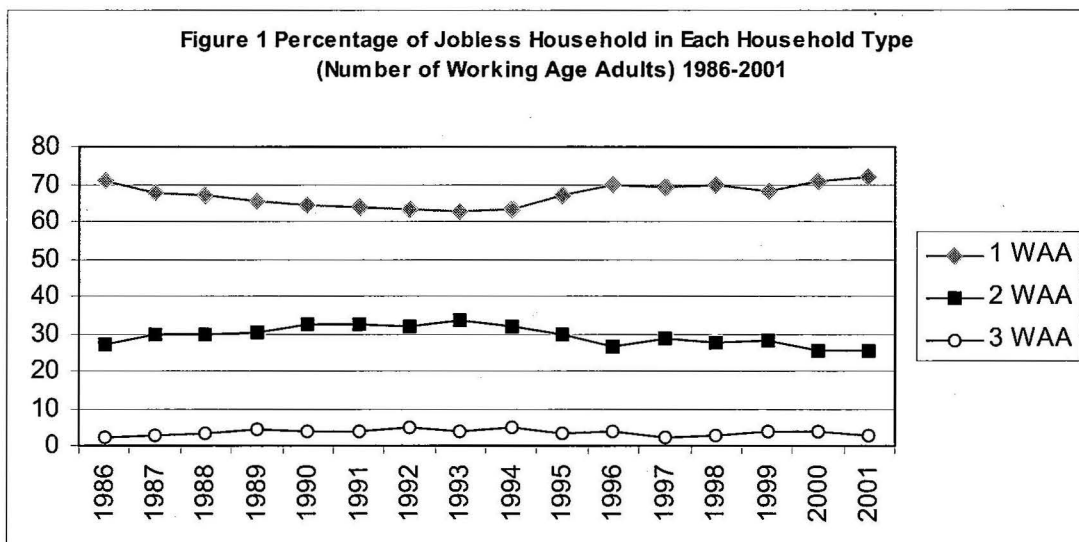
It is not clear what is the cause of the observed household composition changes. One driving force is likely to be the ageing of the population, with single-adult and childless households more common among older age groups. Another possible contribution is that changes in the labour market themselves may have had some influence on household structure. For example, a higher rate of joblessness amongst prime-aged men might have discouraged couple formation or led to greater instability among existing couples (Callister 2001). We will be exploring these linkages in a related project using longitudinal HLFS household data.

Table 3 Share of Jobless Households, 1986-2001

	Number of working-age adults					
	1	1	2	2	3	3
	w/o	w/	w/o	w/	w/o	w/
Year	kids	kids	kids	kids	kids	kids
1986	49.0	21.8	17.7	9.2	1.1	1.3
1987	44.7	23.0	19.2	10.3	1.6	1.2
1988	42.6	24.4	17.9	11.8	1.7	1.7
1989	41.9	23.3	17.0	13.4	1.9	2.5
1990	40.9	23.4	18.1	14.1	1.5	2.0
1991	39.4	24.3	18.3	14.1	1.8	2.2
1992	38.3	24.8	17.6	14.5	2.3	2.6
1993	38.1	24.5	18.4	15.3	1.6	2.2
1994	39.6	23.7	16.4	15.6	1.6	3.1
1995	38.1	28.8	14.9	14.8	1.6	1.8
1996	40.3	29.3	13.4	13.3	1.6	2.1
1997	38.5	30.8	16.1	12.3	1.2	1.1
1998	41.0	28.7	14.4	13.2	1.3	1.4
1999	40.7	27.4	14.0	14.1	2.0	1.7
2000	43.2	27.8	14.9	10.6	1.7	1.9
2001	43.0	28.9	14.0	11.6	1.1	1.5

HLFS, March quarters

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[2] Most two-adult households with children involve a couple and their children, but there are other types. We do not make a distinction for this analysis. Similarly, we do not differentiate between opposite- and same-sex couples.

Figure 1 Percentage of Jobless Household in Each Household Type (Number of Working Age Adults) 1986-2001

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80
70 ◆─◆─◆─◆─◆─◆─◆─◆─◆─◆─◆─◆─◆─◆─◆─◆
60
50                                      ◆ 1 WAA
40                                      ■ 2 WAA
30 ■─■─■─■─■─■─■─■─■─■─■─■─■─■─■─■      ○ 3 WAA
20
10
 0 ○─○─○─○─○─○─○─○─○─○─○─○─○─○─○─○
   1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001
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Figure 2 Relative Polarisation (Ratio of Actual to Predicted Household Jobless Rate) 1986-2001

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1.70
1.65
1.60
1.55
1.50
1.45
1.40
1.35
     1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001
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Although the share of single-adult households increased over the period, their representation among jobless households was similar in both 1986 and 2001 (70.8 vs. 71.9) (see Figure 1). However, these values hide substantial changes that occurred within the period. From 1986 to 1992, the representation of single-adult households among jobless households declined precipitously, by almost 8 percentage points. Two-adult households were especially hard hit by the employment changes of the late 1980s. Their representation among jobless households increased from about one-quarter to one-third in 1993. These patterns reversed during the remainder of the decade. Interestingly, as shown in Table 3, the representation of childrearing households among the jobless increased over the period. Single-parent households increased from 21.8 to 28.9 percent of all jobless households, while two-parent households increased from 9.2 to 11.6 percent. Overall, there was a significant rise in the proportion of work-poor households that are raising children – from 32.3 percent in 1986 to 42 percent in 2001. There are likely to be many factors influencing these changing shares of jobless households. Significant declines in joblessness observed

among those aged 50 and above (data not shown) would be most likely to affect non-childrearing households. These changes could be linked to changes in retirement policies (affecting early retirement), and, particularly among women, cohort changes in the propensity to be employed. Planned analyses will tease out the effect of age, and other possible cofactors, in shaping the observed patterns.

It is worth noting that that joblessness among childrearing households also increased in an absolute sense – with the rate nearly doubling over the period, from 9.1 to 15.2 percent. While we do not know how long these households remained work poor, the results suggests that, increasingly, the poverty rate of childrearing households depends on the generosity of the welfare system rather than on earnings from the labour market. Much recent research has focused on understanding why single-parent households are work-poor (Goodger 2001; Stephens 2000; Wilson 2000; Wilson and Ball 2000) but more research is needed into why two-parent childrearing households are work-poor.

Trends in Household Employment Inequality in New Zealand

Figure 2 shows the trend in household employment inequality as measured by relative polarisation – the ratio of the actual household jobless rate to the rate we would expect to observe if work were distributed evenly. A value of 1 indicates no inequality, while values above 1 indicate the degree of inequality (e.g., a value of 1.5 means there are 50 percent more jobless households than would be expected if all individuals had equal employment probabilities). We see that in 1986, relative polarisation was 1.48, meaning that there were 48 percent more jobless households than would be expected if work were distributed evenly. Relative polarisation reached a peak in 1996, at which point there were 65 percent more workless households than expected. This figure declined by 2001 to about the 1986 level (1.47).

We can understand the nature of polarisation better by examining the component parts of both the predicted jobless household rate and the polarisation measure itself. Changes in the predicted rate are driven by changes in the overall employment rate and changes in household structure (the proportion of 1, 2, or 3-adult households). Changes in polarisation are driven both by changes in household structure (a *between*-household-type component) and by changes in polarisation *within* the different household types. We find (data not shown) that during the period of major restructuring (mid-1980s to early 1990s) both household structural changes and individual employment rate changes led to an increase the predicted household jobless rate, but the employment rate changes accounted for the majority (80%) of the increase. This makes intuitive sense, as we would expect all households to experience increases in joblessness during a period of major employment dislocation at the individual level as seen during the late 1980s. During the economic recovery of the second half of the 1990s and early 2000s, continued household structural changes favouring more single-adult (and thus jobless) households were more than offset by improvements in the employment rate, leading to a decrease in the predicted jobless household rate. Meanwhile, we find that the greatest share of both the rise and subsequent fall in polarisation was driven by within–household-type changes in inequality rather than by changes in household structure itself. Between 1986 and 1994, changes within household types accounted for 74 percent of the observed rise in overall polarisation. When we take the presence of children into account in our measure of household type, this figure drops to 65 percent. That 65 percent of rising polarisation could not be explained by differences across the different household types suggests that factors other than changing household composition played a more important role. During the 1994-2001 period, declines in polarisation within each household type accounted for all of the overall decline in polarisation, more than offsetting change in household composition that favoured higher levels of household joblessness.

As Figure 3 shows, single-parent households had the highest discrepancy between their predicted household jobless rate and their actual rate throughout the period.[3] However, single-parent households experienced a significant decline in polarisation. In contrast, two-parent households went from having lower-than-expected household jobless rates (as indicated by the relative polarisation figure under 1 in 1986) to having a household jobless rate 15 percent higher than expected in 2001. During the 1986-1994 period, two-parent households contributed to two-thirds of the rise in overall polarisation (data not shown). In contrast, single-adult households accounted for almost two-thirds of the decline in polarisation during the 1994-2001 period, with 40 percent accounted for by single-adult childless households and 23 percent accounted for by single-parent households.[4]

Overall we find that the trend toward more single-adult households played an insignificant role in shaping trends in household employment inequality. Instead, employment rate changes within specific household types were the driving factors. While polarisation does not seem to be increasing in any permanent way in New Zealand, we do find significant changes in who is affected by joblessness at the household level. The decline in polarisation among single-parent households is encouraging, but the increase among two-parent households is a concern. In addition, the increasing concentration of joblessness among childrearing households will be of particular concern to policymakers focussed on child poverty issues.

International Comparisons

Briefly we consider how New Zealand compares with Great Britain, the United States, and Australia on some general measures of household employment inequality. First, in Figure 4, we see that all countries show a rise in relative polarisation during the 1980s and early 1990s. Great Britain, with data available from 1977, shows the most dramatic change.[5] The U.S. stands out in having the lowest and steadiest rate of inequality. For example, in 2000 there were only 10 percent more jobless households than expected from a random distribution of work, compared to 50 percent in New Zealand. The next three graphs give some insight into the patterns behind the polarisation trends. Looking at the comparative household jobless rates (Figure 5), we can see that the U.S. again has the lowest and steadiest household jobless rate, showing a slight decline by 2000, when just over 10 percent of households were jobless. In contrast, the other countries appear to be experiencing a rise in and/or high

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[3] We have omitted three-adult households from Figure 3 because of their small sample size.

[4] A decline in work-poor sole-parent households has been documented previously (Goodger 2001; Wilson 2000; Wilson and Ball 2000).

[5] Values for Great Britain, the United States and Australia are from Gregg and Wadsworth (2002) and Dawkins, Gregg, and Scutella (2002).

levels of household joblessness. The U.S.'s steady and slightly declining polarisation measure is the result of declining mixed-work households (data not shown) combined with slightly declining jobless household rates and high and rising all-work household rates (Figure 6). Great Britain also shows a dramatic decline in mixed-work households but an increase in both jobless and all-work households. New Zealand has both a relatively high mixed-work household rate and a low all-work household rate, but the trend toward more all-work households coupled with high household joblessness creates high levels of inequality.

Figure 3 Relative Polarisation for 1- and 2-Adult Households with and without Children, 1986-2001

Figure 4 Trend in Relative Polarisation in Selected Countries

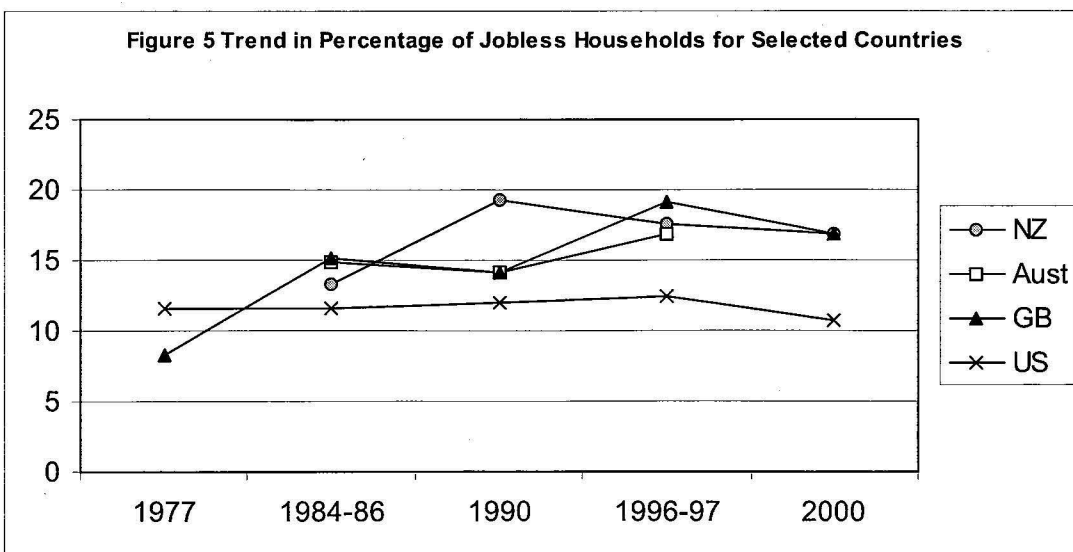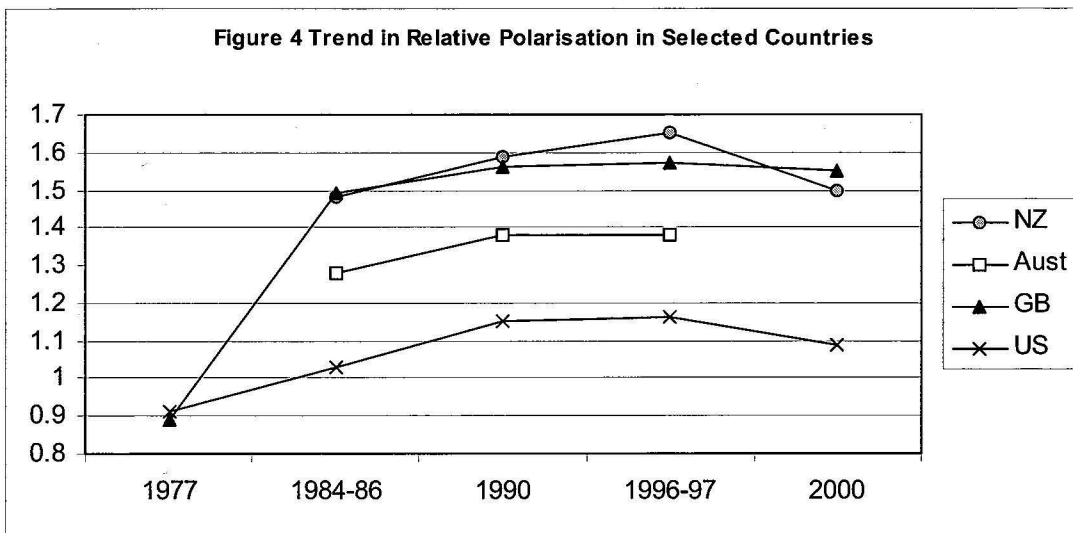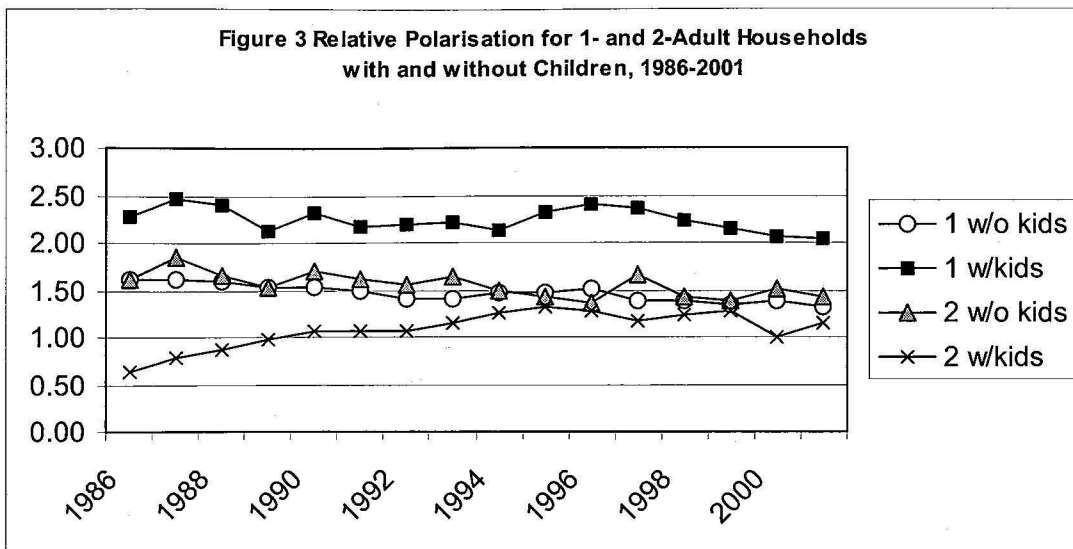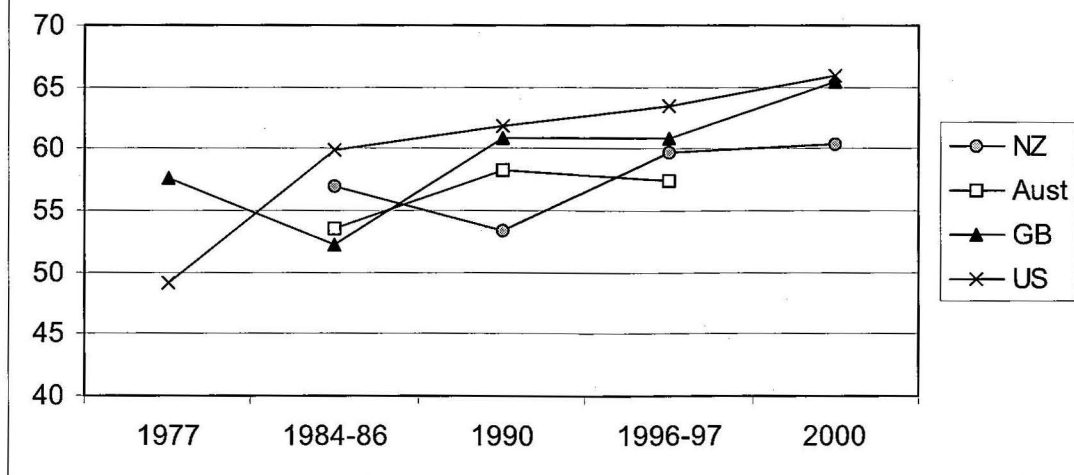Figure 5 Trend in Percentage of Jobless Households for Selected Countries

Figure 6 Trend in Percentage of All-Work Households for Selected Countries

70				
65				
60				
55				
50				
45				
40				
1977	1984-86	1990	1996-97	2000

Legend: NZ, Aust, GB, US

These data suggest the importance of considering how the rise in all-work households and the decline in mixed-work households contribute to rising household employment inequality. These two trends are driven primarily by women who live in couple households joining their partners in paid work. As documented in Table 1, we also see a general rise in gender equality in overall employment rates. Thus, part of the rise in employment inequality across households may be driven by increasing equality between genders and within households (although the measures do not take into account within-household differences in hours spent in paid work). For policymaking purposes, we need to better understand this balance between growing within-household (and gender) equality and between-household employment inequality (Singley 2000). Future work on the comparative aspect of the project will focus on teasing out the role of such changes within various household types across countries and the role of policy, including labour and welfare policies, in shaping these trends. As an example, Stephens (2000) has already shown quite divergent rates of employment of sole mothers in New Zealand compared to the United States.

Future Research

With planned access to individual-level HLFS data, we will be able to complete two additional sets of analyses to better inform our understanding of household employment inequality in New Zealand. First, and building on the analysis presented here, we will apply Gregg and Wadsworth's (2000) methods to understand the role of ethnicity, age, gender, education, and region in shaping within-household type changes in polarisation. To what extent do the characteristics of individuals within different household types explain the observed changes in polarisation? Second, we will be undertaking a project that uses longitudinal household data from the HLFS to answer the question: How long do households remain 'work-poor' or 'work-rich'? Using household data linked over the eight quarters that each household is (potentially) surveyed, we will be able to examine transitions between 'work-poor,' 'mixed work,' and

'work rich' status, and the characteristics of households associated with various types of transitions and duration of joblessness. We will also be able to explore the role of family status changes in creating the observed patterns. For example, if a two-parent household moves from being 'mixed work' to 'work-poor' this could be the result of the employed parent becoming unemployed or of the employed parent leaving the household. Understanding these joint family/labour market dynamics is critical for formulating policy aimed at reducing inequalities in New Zealand. Finally, the comparative framework of the broader project will allow us to explore more general issues regarding policy regimes. How do the various countries' approaches to single parents' employment affect our inequality measures? Does greater gender equality at the household level inevitably translate into more inequality across households? Is household polarisation also linked to increasing geographic segregation of employment? And how do retirement policies affect the employment of older households in each country? These are issues we will be exploring as the project progresses. In addition, future research could examine how polarisation of paid work at the household level links to changes in income inequality at both the individual and household levels, and the role of ethnicity, age, education and gender in shaping these interconnections.

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